APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/966,683	09/27/2001	Daoben Li	10748-006-999	5473

7590   01/15/2003

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EXAMINER
AL BESHRAWI, TONY

ART UNIT	PAPER NUMBER
2631	

DATE MAILED: 01/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/966,683	Applicant(s) LI, DAOBEN
	Examiner Tony Al-Beshrawi	Art Unit 2631

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *March* .

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *10 - 37* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *10 - 37* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on *27 September 2001* is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

       1. ☐ Certified copies of the priority documents have been received.

       2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

       3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

Drawings

The drawing are objected to as follow:

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "846" in Fig.1 should be....."847"..... (see page 11, line 4). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

The specification is objected to as follow:

Page 1, line 1; please insert ....."now U.S. Patent No. 6,331,997 issued Dec. 18, 2001"..... after "2000".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 10, 13, 14 are rejected under 35 U.S.C. 102(b) as being anticipated by
Bar-David(5,596,601).

Regarding claim 10; Bar-David discloses "METHOD AND APPARATUS
FOR SPREAD SPECTRUM CODE PULSE POSITION MODULATION"
comprising: generating a plurality of pulse-trains each having a plurality of pulses
separated by intervals, wherein each one of the plurality of intervals of a
respective one of the pulse-trains is unequal in duration to another interval of
the respective pulse-train; and assigning a polarity to each of the pulse thus
forming at least one code word from each of the pulse-trains (see abstract,
column 1 line 65 – column 2 line 27, column 3 lines 5 – 58; column 4 lines 13 –
25;Figs 1 – 3) .

Regarding claim 13; Bar-David further discloses the polarity of each pulse is one
of +1, -1 and 0 (see abstract, column 1 line 65 – column 2 line 27, column 3 lines
5 – 58, column 4 lines 13 – 25; Figs 1 – 3).
Regarding claim 14; Bar-David further discloses each code word is unique within
the plurality of code words (see abstract, column 1 line 65 – column 2 line 27,
column 3 lines 5 – 58, column 4 lines 13 – 25 ; Figs 1 – 3).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 12, 24, 26, 28, 30 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Bar-David (5,596,601).

Regarding claim 24; Bar-David discloses "METHOD AND APPARATUS

FOR SPREAD SPECTRUM CODE PULSE POSITION MODULATION"

comprising a train of pulses separated by intervals that are unequal in duration to

each other and wherein the pulses each have a predetermined polarity, and

wherein the spread-spectrum-multiple access communication system encodes

data with the spread-spectrum multiple access code(see abstract, column 1 line

65 – column 2 line 27, column 3 lines 5 – 58, column 4 lines 13 – 25 ; Figs 1 – 3).

However, Bar-David fail to disclose spread-spectrum multiple access code,

wherein the spread-spectrum multiple access code is embodied in a memory of a

spread-spectrum-multiple access communication system. Embodying codes in a

memory is known in the art. Therefore it would have been obvious to one of

ordinary skill in the art at the time the invention was made to use a memory to

embody codes in to reduce cost, size, and system's flexibility.

Regarding claims 12, and 26; it is a matter of design choice the duration of

any one interval is unequal to a sum of the durations of any other two intervals to

achieve an intended purpose. The use a predefined codewords pattern, duration,

and intervals are for intended purpose.

Regarding claim 28; Bar-David further discloses the polarity of each pulse

is one of +1, -1 and 0 (see abstract, column 1 line 65 – column 2 line 27, column

3 lines 5 – 58, column 4 lines 13 – 25; Figs 1 – 3).

Regarding claim 30; Bar-David further discloses a Barker sequence

associated with each pulse(see abstract, column 1 line 65 – column 2 line 27,

column 3 lines 5 – 58, column 4 lines 13 – 25; Figs 1 – 3).

Therefore it would have been obvious to one of ordinary skill in the art at

the time the invention was made to use a memory to embody codes in to reduce

cost, size, and system's flexibility.

Claims 18 - 23, 29, 31, 33, 35 - 37 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Bar-David, in view of Urkowitz (5,151,702).

Regarding claims 18, and 31; Bar-David discloses "METHOD AND

APPARATUS FOR SPREAD SPECTRUM CODE PULSE POSITION

MODULATION" comprising plurality of pulse codes each representative of one

pulse of a train of pulses, wherein the pulses are separated by intervals that are

unequal in duration to each other and wherein the pulses each have a predetermined polarity and wherein the spread-spectrum multiple access communication system encodes data with the spread-spectrum multiple access code. A spread-spectrum multiple access code, wherein the spread-spectrum multiple access code is embodied in a memory of a spread-spectrum-multiple access communication system, wherein the spread-spectrum multiple access code (see abstract, column 1 line 65 – column 2 line 27, column 3 lines 5 – 58, column 4 lines 13 – 25 ; Figs 1 – 3). However, Bar-David fail to disclose spread-spectrum multiple access code, wherein the spread-spectrum multiple access code is embodied in a memory of a spread-spectrum-multiple access communication system, pulse compression technique, and increasing the duty ratio of each of the code words. Embodying codes in a memory is known in the art; Urkowitz discloses coding technique that uses pulse compression technique, and improving the duty ratio of each of the code words (see abstract, column 1 lines 21 - 26, column 5 lines 28 – 34). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a memory to embody codes in, and to coordinate the teaching of Urkowitz's into Bar-David to use pulse compression technique to vary transmission frequency during a pulse, and to allow transmitter to operate over longer period to improve resolution without requiring excessive peak power transmission, and to reduce cost, size, and system's flexibility, and to use pulse compression technique.

Regarding claims 19, 20, 29, and 36; Urkowitz further discloses representing each +1 pulse in the plurality of pulses with a positive pulse compression code; and representing each -1 pulse in the plurality of pulses with a negative pulse compression code.

Regarding claim 22; Bar-David further discloses time-offsetting a selected one of the code words to generate a plurality of shifted versions of the selected code word, and overlapping the selected code word and the plurality of shifted versions to form a time-offset overlapped code word(see abstract, column 1 line 65 – column 2 line 27, column 3 lines 5 – 58, column 4 lines 13 – 25, column 5, lines 38 - 49; Figs 1 – 3).

Regarding claim 23; Bar-David further discloses different orthogonal modulating frequencies for different shifted versions of the selected code word(see abstract, column 1 line 65 – column 2 line 27, column 3 lines 5 – 58, column 4 lines 13 – 25, column 5, lines 38 - 49; Figs 1 – 3).

Regarding claim 33; it is a matter of design choice the duration of any one interval is unequal to a sum of the durations of any other two intervals to achieve an intended purpose. The use a predefined codewords pattern, duration, and intervals are for intended purpose.

Regarding claim 35; Bar-David further discloses the polarity of each pulse is one of +1, -1 and 0 (see abstract, column 1 line 65 – column 2 line 27, column 3 lines 5 – 58, column 4 lines 13 – 25; Figs 1 – 3).

Regarding claims 21, and 37; Bar-David further discloses a Barker

sequence associated with each pulse   (see abstract, column 1 line 65 –

column 2 line 27, column 3 lines 5 – 58, column 4 lines 13 – 25; Figs 1 – 3)

Therefore it would have been obvious to one of ordinary skill in the art at the time

the invention was made to use a memory to embody codes in, and to coordinate

the teaching of Urkowitz's into Bar-David to use pulse compression technique to

vary transmission frequency during a pulse, and to allow transmitter to operate

over longer period to improve resolution without requiring excessive peak power

transmission, and to reduce cost, size, and system's flexibility, and to use pulse

compression technique.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially
created doctrine grounded in public policy (a policy reflected in the statute) so as
to prevent the unjustified or improper timewise extension of the "right to exclude"
granted by a patent and to prevent possible harassment by multiple assignees.
See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re
Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686
F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164
USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644
(CCPA 1969).
A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may
be used to overcome an actual or provisional rejection based on a nonstatutory
double patenting ground provided the conflicting application or patent is shown to
be commonly owned with this application. See 37 CFR 1.130(b).
Effective January 1, 1994, a registered attorney or agent of record may
sign a terminal disclaimer. A terminal disclaimer signed by the assignee must
fully comply with 37 CFR 3.73(b).

Claims 10 – 17, 24 – 28, 30 – 35, and 37 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 – 5, 9, and 10 of U.S. Patent No. 6,331,997. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

Regarding claim 10; all the limitations of claim 10 of the instant application are encompassed, are nearly identical in every other respect to the combination of claims 1 – 3 of U.S. Patent No. 6,331,997 . Therefore, claim 10 is simply a similar version of claims 1 – 3 of U.S. Patent No. 6,331,997 that is used herein as the basis for the obviousness-type double-patenting rejection. The applicant is attempting to claim (claim 10) the same invention in the instant application at issue here as of the combination of claims 1 – 3 of U.S. Patent No. 6,331,997 with identical limitations, but merely a change in the phraseology. If allowed, the application at bar would unjustly extend Applicant patent protection beyond the statutory period, at the same time.

Regarding claims 24, and 31; all the limitations of claims 24, and 31 of the instant application are encompassed, are nearly identical in every other respect to the combination of claims 1 – 3, and 9 of U.S. Patent No. 6,331,997 . Therefore, claims 24, and 31 are simply a similar version of claims 1 – 3, and 9 of U.S. Patent No. 6,331,997 that is used herein as the basis for the obviousness-type double-patenting rejection. However, the use of a memory to embody

codes in is known in the art to reduce cost, size, and system's flexibility. The applicant is attempting to claim (claims 24, and 31) the same invention in the instant application at issue here as of the combination of claims 1 – 3, and 9 of U.S. Patent No. 6,331,997 with identical limitations, but merely a change in the phraseology. If allowed, the application at bar would unjustly extend Applicant patent protection beyond the statutory period, at the same time.

Regarding claims 11, 25, and 32; see the combination of claims 1 – 4 of U.S. Patent No. 6,331,997.

Regarding claims 12, 26, and 33; see the combination of claims 1 – 3 of U.S. Patent No. 6,331,997.

Regarding claims 13, 28, 35; it is inherent for the polarity of each pulse is one of +1,-1, and 0.

Regarding claim 14; see the combination of claims 1 – 5 of U.S. Patent No. 6,331,997.

Regarding claims 15, 17, 27, and 34; see the combination of claims 1 – 3 of U.S. Patent No. 6,331,997.

Regarding claim 16; see the combination of claims 1 – 3 of U.S. Patent No. 6,331,997.

Regarding claims 26, 30 and 37; see the combination of claims 1 – 3, and 10 of U.S. Patent No. 6,331,997

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Li (6,331,997), Bar-David (5,596,601),Urkowitz (5,151,702), Neustadt (3,862,371), Gouenard et (5,815,111), Mo et al (5,964,706), Witt (4,121,295) were cited because they are pertinent to coding techniques.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **(Tony Al-Beshrawi)** whose telephone number is **(703-308-9557)**

If attempts to reach the examiner by telephone are unsuccessful, the primary examiner **(Mohammad Ghayour)**, can be reached at **(703-306-3034)**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application

or proceeding should be directed to the Technology Center 2600 Customer

Service Office whose telephone number is (703) 306-0377.

T.B.
January 12, 2003

CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600